

WILDLIFE TRAVEL



Morocco 2023

Morocco, species list and trip report, 4th to 11th March 2023

#	DATE	LOCATIONS AND NOTES
1	4 th March	Evening arrival in Agadir, transfer to Atlas Kasbah.
2	5 th March	Atlas Kasbah and Tighanimine El Baz area.
3	6 th March	Cap Rhir, Oued Tamri and Agadir Oufella.
4	7 th March	Taroudant and Tiout palmery.
5	8 th March	Souss-Massa National Park and Oued Souss.
6	9 th March	Imi Mqourn, Ait Baha and Laatik.
7	10 th March	Paradise Valley and the Cascades du Immouzer.
8	11 th March	Atlas Kasbah, evening flight back to UK.

Leaders

Laurie Jackson

Dom Price

Sussex

Wiltshire



Above: Anti-Atlas.

A gallery of photos from the trip is at

<https://www.flickr.com/photos/wildlifetravel/albums/72177720306639857>

Day One: 4th March. Evening arrival in Agadir, transfer to Atlas Kasbah.

Our afternoon flight took us south from London Gatwick, across the Bay of Biscay to Asturias in north-western Spain, on to Faro in Portugal, before meeting the Moroccan coast near Casablanca. Passing over the High Atlas, we descended over the agricultural plains around Agadir; a city of almost a million. With bags reclaimed it was out into blue skies, with House Sparrows and Spotless Starlings flitting around the airport building. We met up with our driver who whisked us around the outskirts of Agadir and into the countryside, for our first views of the Atlas Kasbah, perched on a hill top in the foothills of the High Atlas. After finding our rooms we had a dinner of goat tagine, followed by *briwats* (little pastries filled with almonds and honey), before settling in for our first night in Morocco.

Day Two: 5th March. Atlas Kasbah and Tighanimine El Baz area.

With sunrise only shortly before breakfast, the Common Bulbul chorus was just starting on the terrace as we made our way for our first Moroccan breakfast: a selection of fresh bread, *jben* (fresh cheese), pumpkin and orange jams, *amlou* (made from ground almonds, honey and argan oil), eggs and *dchicha* (cracked barley soup), washed down with coffee and mint tea. Following an introduction to the week, which would see us exploring the Atlantic coast, Anti-Atlas, High Atlas and more, we were soon setting off into the sunny morning for an exploration of the area around the hotel.

Our first stop was one of the many large Argan trees growing in the hotel's grounds. Argan is endemic to south-western Morocco and south-western Algeria, and belongs to a primarily tropical family, Sapotaceae; a relic of the time when this area had a tropical climate. Argan is at the heart of much of the local culture and economy, being used for culinary and health purposes, washing, feeding animals, fuel, and in much of the traditional architecture. The area of Argan forest has decreased by around half over the last century due to changing land-use, agricultural intensification and subsequent desertification. It now covers around 828,000ha, and the Argan forest, and its surrounding area were declared a UNESCO Biosphere Reserve in 1998, as a means of promoting the protection and sustainable development of this area.

The Atlas Kasbah, our home for the week, was built with the objective of promoting responsible travel, both in terms of sustainable use of resources and environmental protection, but also in showcasing Berber culture, and supporting the local communities. At the top of the gardens, a phyto-purification water filtration system, uses a series of pools containing gravels and plants to treat the 'grey water' from the hotel, which is then used to irrigate the garden: an oasis of green in an otherwise dry area. North African Water Frogs were bobbing in the pools or lounging at their edges as we passed, and a Painted Lady flitting by marked the first of many species we would see already on the wing, enjoying the spring.

An African Chaffinch was singing his descending song high in a tree: much paler than in the UK, the chaffinches here were formerly considered to be the North African sub-species, but have recently had full species status conferred. House Sparrows squabbled noisily around us and Sardinian Warblers scolded from low in cover as we walked through the garden shaded by Argan, Olive and Lemon trees, passing beds full of vegetables and herbs that would be making their way onto our plates and into our after-dinner teas during the week.

Turning out along the lane two spiny shrubs lined the roadside: the 'chicken-wire bush' *Launaea arborescens* and *Ziziphus lotus*, often used as dead hedging around fields. These were joined by *Withania somnifera* with its yellow bell flowers and *Periploca angustifolia*, its small reddish flowers just beginning to open. Several bushes were covered in the white-flowered scramble of dodder, a parasitic plant that produces special root-like haustoria that infiltrate the vascular system of its host.

Within the verges plenty of fresh growth hinted at recent rain, with the first flush of *Ashpodelus fistulosus* attempting to impersonate an allium, amid a carpet of the dock *Emex spinosa*. Tucked in among the dead hedge were several clumps of the odd, fleshy succulent *Apteranthes europaea*, with both its dramatic flowers and long slender seed pods seen. The creeping, violet-flowered *Zygophyllum creticum* joined the red-purple *Echium horridum*, and *Heliotropium crispum* with its dense cluster of white flowers.

Along the goat track we found the leaves of the ice plant *Mesembryanthemum crystallinum* growing with a *Crassula* and a *Sedum*, along with low-growing, goat-nibbled patches of the feathery-leaved lavender *Lavandula multifida*. A trio of yellow butterflies were spotted in the Argan forest as we walked. The ubiquitous Greenish Black-tip, the smallest and palest, whilst the Moroccan Orange-tip sported a brighter yellow with orange patches at the end of the forewings, and a couple of larger and brighter-still Cleopatras patrolled the track. Moroccan Hairstreaks were spotted low over the ground, with at least one of the whites flying around stopping for long enough to confirm it as Bath White.

African Chaffinch and Greenfinch were singing atop the Argan and there were plenty of Thekla's Larks chasing through the trees, their fluting calls and song often heard. A Barbary Ground Squirrel was spotted on boulders with Barbary Partridge briefly heard calling, but not seen among the rocky ground. A pair of sharp eyes picked out a Striped Hawkmoth tucked low in vegetation whiling the day away, perhaps sensible, as several Vagrant Emperors circulated over our heads. Our homeward journey held one final treat, as an insect-like sound revealed a glorious male Cirl Bunting in full song.

After lunch we headed out to the local village Tighanimine El Baz (Valley of the Eagle), accompanied by local resident Ahmed, a man of few words. On a bank we found a large patch of the low-growing bulb *Colchicum gramineum* along with a single Tassel Hyacinth and a scattering of Blue Pimpernel.

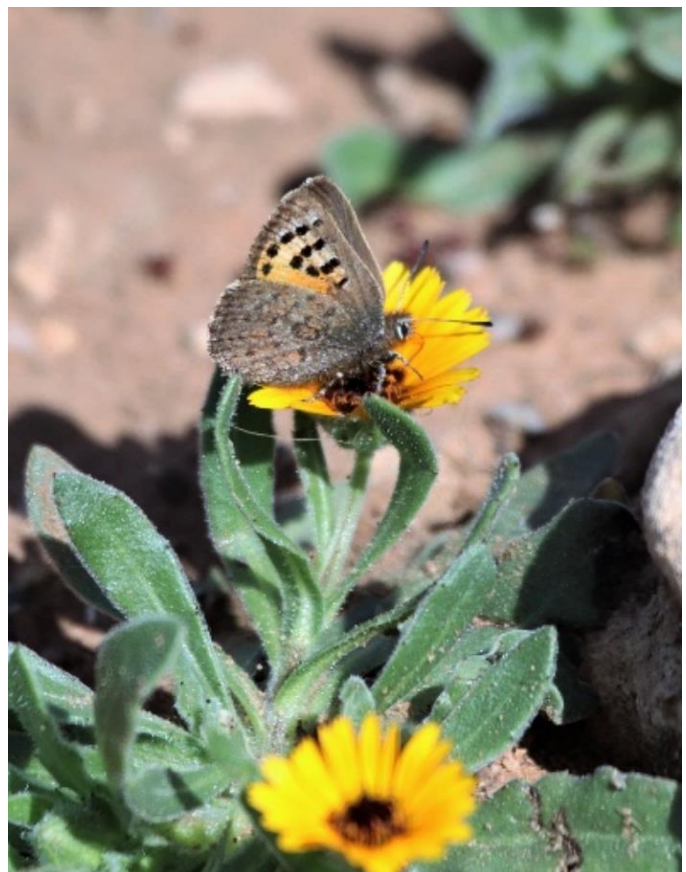
As we continued down towards a dry riverbed filled with Oleander, which was in turn filled with Oleander Seed Bugs, we spotted the sculptural plantain *Plantago afra*. Around the small mosque a pair of Black Wheatears were busy delivering beakfuls of insects to hungry chicks concealed somewhere nearby, and several Barn Swallows were swooping low over the ground, a welcome herald of the spring.

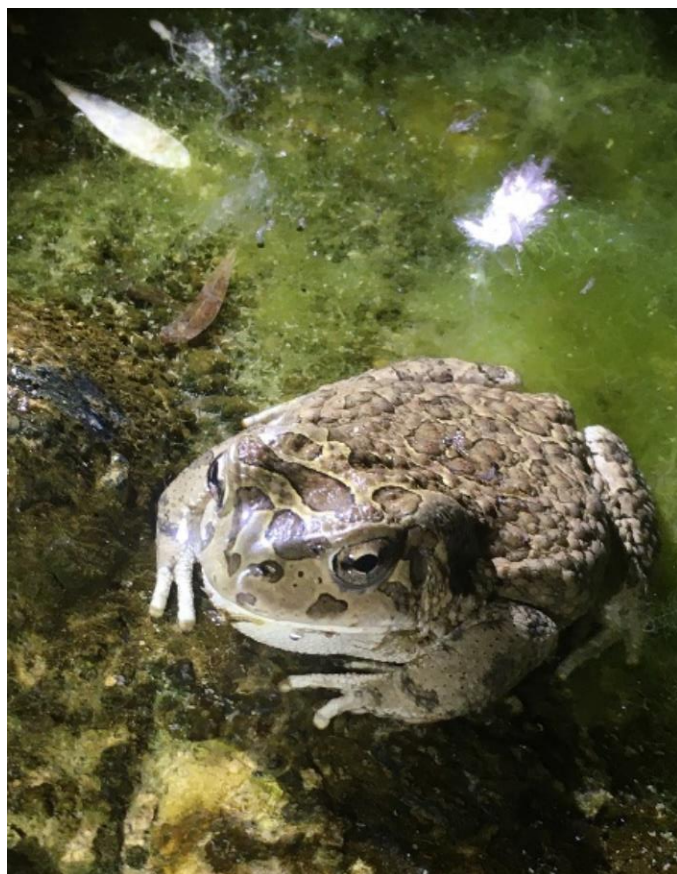
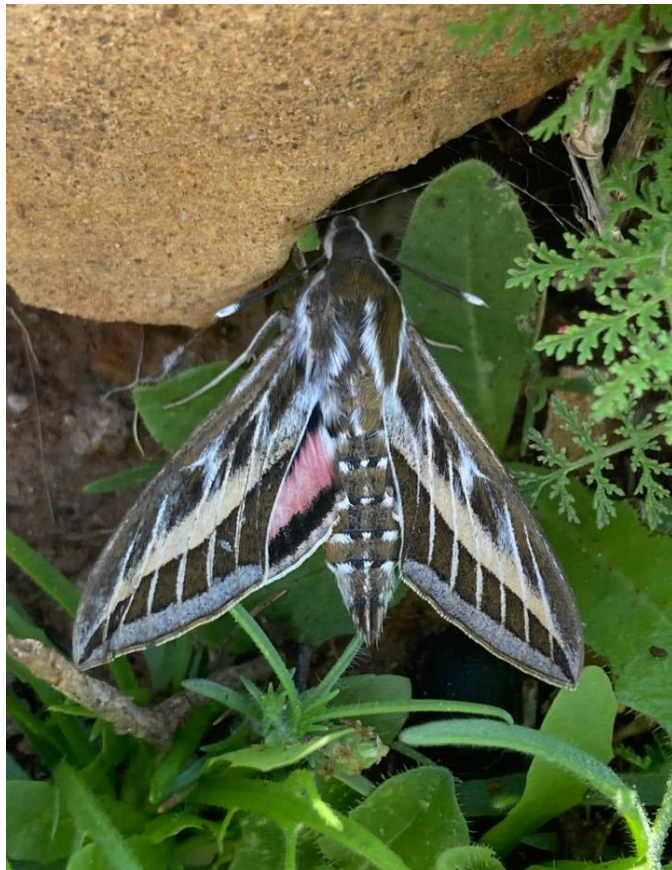
The hillside here was marked by stark patches of dead prickly pear. Although not a native species to Morocco, it was first introduced around 1770 and has cultural and economic significance. Huge tracts of the cactus have been damaged or killed by a scale insect *Dactylopius opuntiae* since it was first detected in Morocco in 2014, leaving behind the sad remains we saw before us.

Making our way through the main village, where a tent had been erected in the street to mark an unknown occasion, we found a patch of *Scrophularia arguta*. After a dinner of *charria b'djaj* sweet

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and savoury angel hair pasta with chicken, we visited the gardens again to find several large Berber Toads had joined the frogs in the water pools, their tiny peeping calls no match for the cacophony of the frogs. Despite its earsplitting calls, a nearby cicada could not be tracked down, and tree crickets also joined the chorus from overhead. Occasional bat passes included Common Bent-wing Bat, and in the distance we heard the strange calls of Red-necked Nightjar drifting through the night.





Top to bottom: Atlas Kasbah; *Apteranthes europaea* (Dom Price); Moroccan Hairstreak; *Linaria bipartita*; Striped Hawk-moth (Dom Price); Berber Toad; Cirl Bunting.

Day Three: 6th March. Cap Rhir, Oued Tamri and Agadir Oufella.

As the Common Bulbuls' simple song again filled the sunny sky, we set off towards Agadir, and struck north along the Atlantic coast. The landscape quickly began to change, with low-growing coastal steppe vegetation alongside areas of succulent *Euphorbia* scrub.

We made our first stop close to Cap Rhir to explore the interesting plant community here, which is unique to the south-west Morocco coastline, down into coastal Mauritania, and across to the Canary Islands (where closely-related species make up a very similar flora). These communities are a botanical link between this part of Morocco and the flora of the North Atlantic Islands, collectively termed the Macaronesian flora. In the geological past this flora would have been more widespread on the mainland, becoming confined to these climatically favourable areas during recent cycles of glaciation.

The large yellow flowers of *Asteriscus imbricatus* were widespread as was the borage *Mairetis microsperma* with its tiny blue flowers. Two succulent species were prominent among the vegetation: the umbrella-forming, lime-green shrubby *Euphorbia regis-jubae* (found here and in the Canary Islands) and the cactus-like *Euphorbia officinarum* (found in southern Morocco and down to Mauritania). Large 'thumbs' of the strange red-brown *Cynomorium coccineum* emerged from the sand alongside towering spikes of yellow-flowered *Cistanche phelypaea*. Both species are obligate parasites, with the *Cistanche* most likely feeding on the Shrubby Sea-blite also present.

Dashing between patches of vegetation were several long-tailed and heavily-spotted Margarita's Fringe-toed Lizards, whilst butterflies included Moroccan Hairstreak, joined by Lang's Short-tailed Blue and Small Copper.

As we explored we found the succulent groundsel *Kleinia antieuphorbium* (endemic to Morocco), before hitting a diverse seam of plants in a small valley. Two different lavenders were spotted: *Lavandula dentata* (var. *candicans*) with its toothed grey leaves, and *Lavandula multifida*, a lot less goat-nibbled than yesterday. Here too was Yellow Bugle *Ajuga chamaepitys*, the purple stock *Marcus-kochia littorea*, Sea Rocket and Sea Heath, along with the pinnacle of docks, the Bladder Dock. At one point a handsome male Moussier's Redstart tried his best to distract us as he sang from a *Euphorbia*.

Continuing north we soon reached Oued Tamri, finding ourselves almost alone on the sandy, dune-fringed beach. Sardinian Warblers flitted among the scrub, joined briefly by a Western Orphean Warbler.

After a short walk along the beach we reached a small brackish lagoon where a couple of Ruddy Shelducks dozed as a Grey Heron and Little Egret paddled hopefully in the shallows. On the hillside beyond we spotted a group of large black birds, simultaneously scruffy and smart, with the glossy plumage giving way to a bald head: Northern Bald Ibis. Up to nine birds were foraging for invertebrates and other tasty morsels among the vegetation, disappearing occasionally behind bushes or into hidden dips.

Once widespread across southern Europe, North Africa and part of the Middle East, they were lost from most of their range as a result of poisoning from pesticides, hunting, disturbance at nesting

sites, and more recently, loss of their foraging habitats to coastal development. Northern Bald Ibis reached a low of only around 100 birds by the 1990s, with the last remaining Middle Eastern birds, a tiny colony near Palmyra in Syria, who migrated down via the Yemen to Somalia and Eritrea for the winter. These birds are almost certainly extinct: doomed by the various conflict zones that make up their territory. There is positive news from the Moroccan population, with at least 708 individuals at a recent count, and 170 chicks fledged in 2019. An introduced population in southern Spain now numbers around 80 birds, with further small, managed colonies introduced to Germany and Austria. The Northern Bald Ibis was down-listed to Endangered in November 2018, after more than three decades categorised as Critically Endangered.

It was then time to retrace our steps to Agadir, for a final stop at Agadir Oufella (translated from Berber to "the fortress at the top"), perched on a promontory close to the fishing port. The fortress dates back to the 16th Century and housed the old city of Agadir, much of which was destroyed in the 5.8 magnitude earthquake that struck the city on 29 February 1960, killing around 15,000 people. There is now a project underway to restore Agadir Oufella, as well as studying the archaeology of the site.







Top to bottom: Oued Tamri; Moussier's Redstart; *Cistanche phelypaea*; a trio of succulents: *Euphorbia regis-jubae*, *Euphorbia officinarum* and *Kleinia antieuphorbium*; Margarita's Fringe-toed Lizard; *Mairetis microsperma*; *Zygophyllum creticum*.

Day Four: 7th March. Taroudant and Tiout palmery.

We set off east this morning, headed for the town of Taroudant, our journey taking us through the important agricultural area of the Souss valley, where oranges, bananas and salad are grown (often under polythene), much destined for northern Europe. Taroudant is often described as a mini-Marrakech, with its mud-plastered ramparts dating back to the 16th Century. With almost 6km of walls and nine gates, Taroudant is an impressive and imposing sight on arrival.

We stopped for a drink in the peaceful garden of a local hotel, with Pallid Swift and Little Swift overhead, the calm before the storm, before we headed into Taroudant's maze-like souk. With everything from jewellery to dates, and scarves to spices gleaned from its stalls we tore ourselves away and continued south-east, to the edge of the Anti-Atlas and the palmery on the outskirts of the village of Tiout.

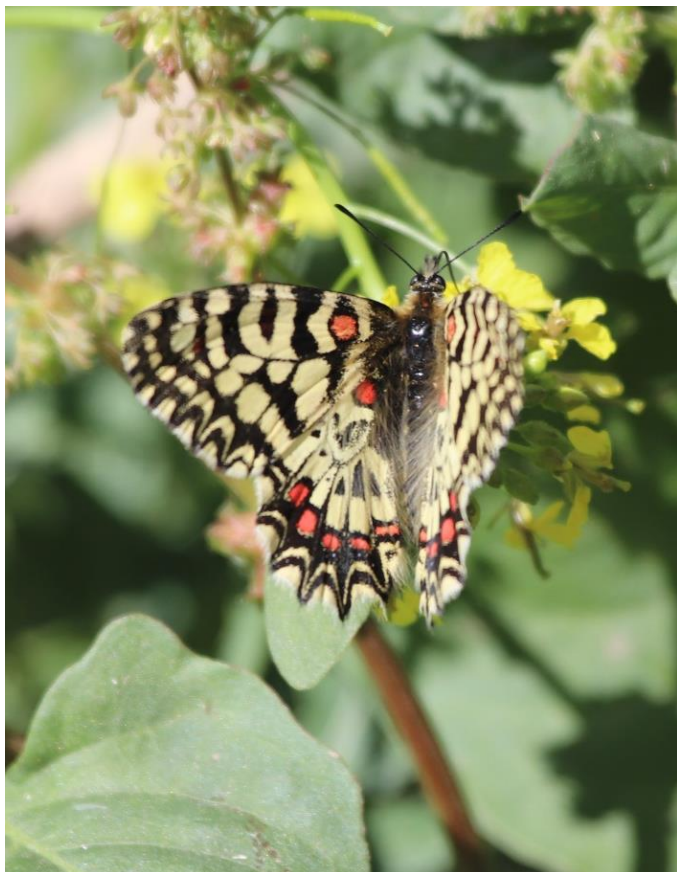
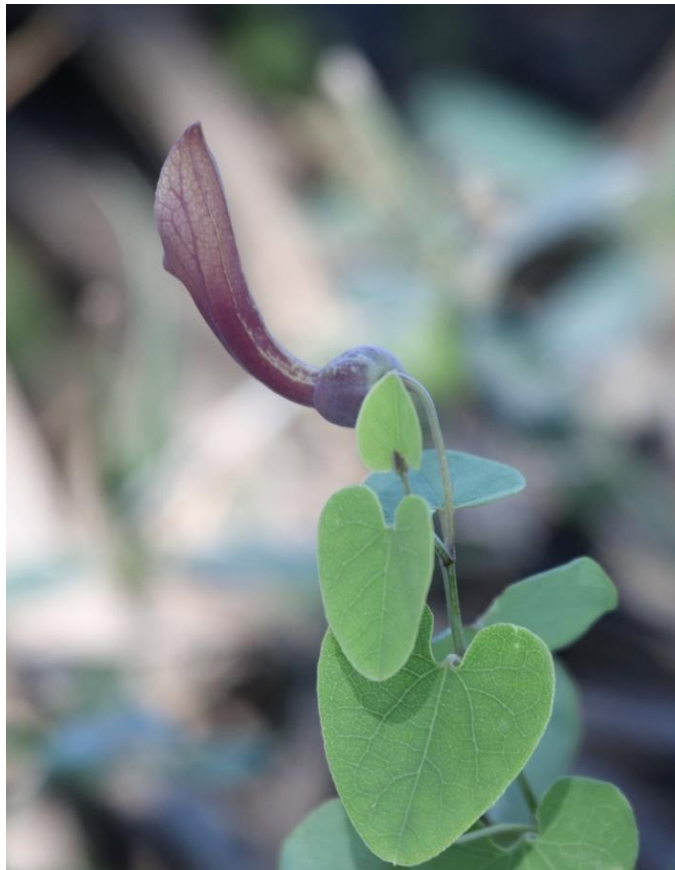
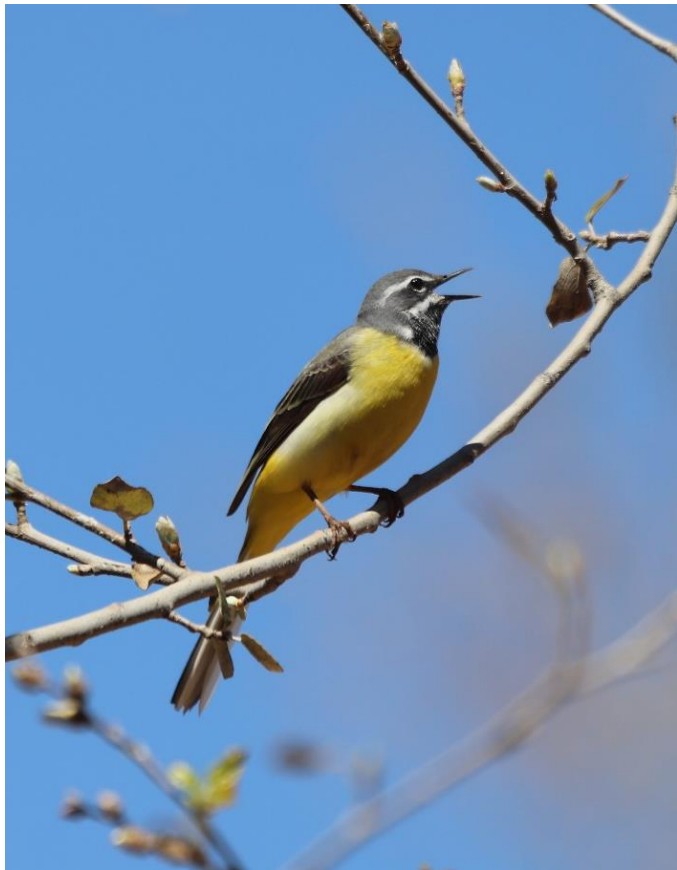
A mountain spring feeds the palmery via a network of irrigation pools and channels, allowing local villagers to grow wheat, corn and barley, alongside the many Date Palms and Carobs here. As we walked to our lunch spot we passed a Grey Wagtail singing exuberantly from the trees, joined by both Serin and Blackcap as we ate. North African Water Frogs were also engaged in their own particular brand of singing, and Moroccan Orange-tips flew all around us, as usual making a point not to stay in any one spot too long.

As we set out for a walk through the palmery itself we found the delicate Maidenhair Fern growing alongside a water channel, along with a scramble of both White Bryony and the 'dutchman's pipe' *Aristolochia baetica*. Shortly afterwards we found our first of several Spanish Festoons, a bright yellow butterfly related to the swallowtails, and a pleasure to identify amongst the multitude of tiny blues.

Cirl Bunting and Great Tit were singing from the palms and we spotted a Chiffchaff alongside the many African Chaffinches, Greenfinches and Common Bulbuls. We stopped for a while to ponder the unusually slender Cone-headed Grasshopper as it crossed our path, before completing our walk, dodging a donkey-train as we reached its end.

Our final stop was at the Argan oil cooperative in Tiout, a mixture of both modern technology and the traditional, from the local women cracking the nuts by hand (not easy as some of the group can confirm!), through to the pressing machine and bottling process. This is the second oldest cooperative in Morocco, founded in 2001, with a membership of around 40 women. It takes some 30kg of Argan nuts and 15 hours of work to produce around 1 litre of pure Argan oil, and our purchases were a direct way to support women's development, and return money to the local community.

After a delicious dinner of fish skewers followed by stuffed dates we headed up on to the roof to take in the stars and listen out for bats, with Common Bent-winged Bat and a probable Kuhl's Pipistrelle spotted foraging for insects.



Top to bottom: Grey Wagtail; *Aristolochia baetica*; Spanish Festoon; Cone-headed Grasshopper.

Day Five: 8th March. Souss Massa National Park and Oued Souss.

Following breakfast, we were met by a fleet of 4-wheel drive vehicles, setting off south for our visit to Souss-Massa National Park. The National Park was established in 1991, and covers an area of almost 34,000 hectares of sand dunes, steppe, wetlands and Argan forest. Souss-Massa has particular significance for its colonies of Northern Bald Ibis, as well as being an important site for many other breeding and wintering birds. We were of course also here for the mammals: the 'Sahelo-Saharan megafauna' is one of the most endangered assemblages of large animals in the world, threatened by a combination of lack of grazing as a result of competition with domestic livestock (primarily goats and camels), and over-hunting, with increasing numbers of high-powered weapons freely available across large swathes of their former range (which includes Libya, Tunisia, Mali and Chad). Once widespread across the arid regions of North Africa, almost all the large mammals of the Sahara are now extremely rare in the wild, and four important members of this megafauna have been 're-wilded' in Souss-Massa National Park.

Arriving at the Park's visitor centre the jangling song of Serins flooded the air alongside the more tuneful twitter of Greenfinches. We managed to spot a couple of bright yellow male Serins as they sang, and a group of Serins, Greenfinch, African Chaffinch, Blackcap and Moussier's Redstart came down to a small pool to bathe and drink, as Moorish Terrapins and North African Water Frogs basked on rocks nearby.

It was then time to visit the first of the Park's enclosures, which forms part of the captive-breeding programme here: the 2,000ha Rokein reserve. We soon spotted our first Addax, a large and ghostly-pale antelope with long, twisted horns topped with a 'toupée' of brown hair. Addax are native to arid stony and sandy desert out in the Sahara proper, where they graze on a range of vegetation. At one time Addax would have been abundant across North Africa, however they are now Critically Endangered in the wild, with some last individuals possibly clinging on in Mauritania, Chad and Niger: a survey in 2016 of prime habitat identified just three wild Addax. Captive populations, including these in Morocco, mean the Addax still persists as a species, with reintroductions underway into the Sahara of Tunisia and Algeria, but its future in the wild is far from secure.

It had rained in Morocco a few weeks before our visit and our good botanical fortune continued, with the ground bright with flowers including *Linaria bipartita*, *Erodium hesperium*, *Helianthemum confertum* and the large and beautiful cream and maroon daisies of *Ismelia carinata*.

There were Kestrels a plenty perched in bushes and hovering in hope of a meal, and a mass of butterflies flitted low over the ground, including Small Copper, Greenish Black-tip and untold variety of blues, with Painted Ladies periodically powering through. A couple of people glimpsed Spur-thighed Tortoises trundling among the flowers, as Addax grazed or relaxed in small groups.

We were in for a surprise when we stopped at a viewpoint, with a newly-erected aviary nearby that held a group of four Double-spurred Francolin. Related to partridges, these beautifully dark and cream-streaked birds have their main stronghold in West Africa, with a smaller, threatened population in Morocco recognised as a distinct sub-species. Over the last few years the National Agency for Water and Forests in Morocco (ANEF) has been reintroducing Double-spurred Francolin

to their former range, and the release of 120 birds to Souss-Massa National Park in December 2022 was the third of these releases.

As we left the Rokein enclosure there was a stark contrast as the impacts of the many sheep, goats and camels herded through the area on the ground flora became evident. A Southern Grey Shrike watched us pass from a nearby bush, whilst a pair of Little Owls sat trance-like on a pile of rocks, before we entered the 1,200ha Arrouais reserve.

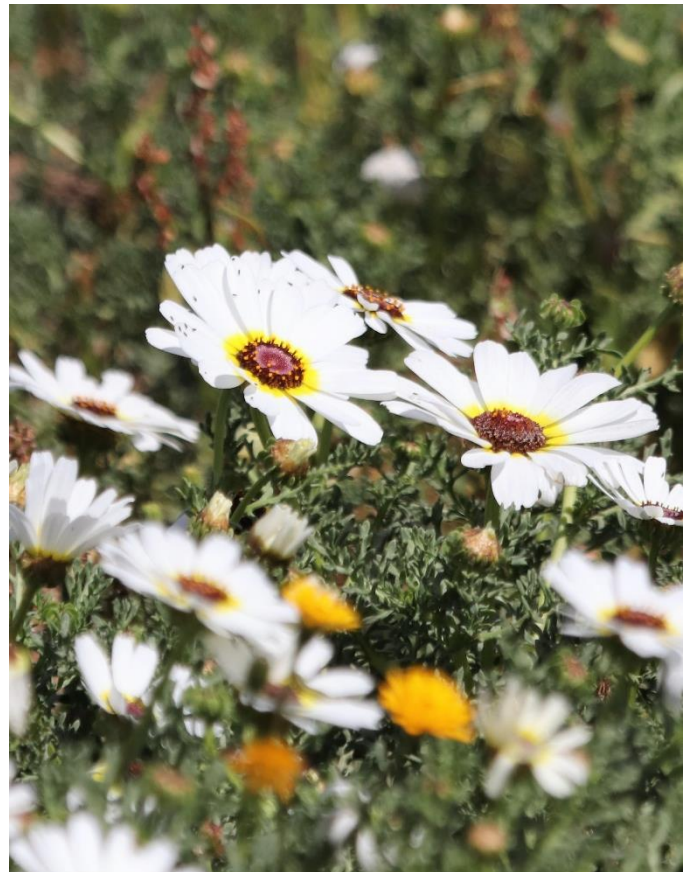
Almost immediately we spotted the largest of the three antelopes within the National Park: Scimitar-horned Oryx, a handsome beast with its ginger neck, tear-shaped face markings and swept-back horns. Like the Addax, the Scimitar-horned Oryx has not fared well, and was declared Extinct in the Wild in 2000. The population here at Souss-Massa is now the largest single herd left on the planet. Scimitar-horned Oryx once grazed extensively across North Africa, migrating seasonally with the rains. There are now ambitious plans from Chad to re-establish this species in the wild, at its former stronghold in Ouadi Rimé-Ouadi Achim Game Reserve. In late summer 2016, the first individuals were released into the wild, with a calf born in September 2016 considered the first 'wild-born' Scimitar-horned Oryx for over 30 years. The project aims to have a self-sustaining population of 500 animals within five years.

As we drove we found large groups of the smaller and shyer Dorcas Gazelle with their lyre-shape horns and intricately marked faces and ears. These antelope of steppe and desert are found across North Africa however are considered Vulnerable, with the Moroccan sub-species showing a marked decline in recent decades.

The fourth of the 'megafauna' quartet we had come to see was not a mammal, but a bird: the Red-necked Ostrich, the North African sub-species of the Common Ostrich, and the largest living species of bird. The Red-necked Ostrich is noticeably more colourful than sub-Saharan birds and the males were sporting the sunburn-pink of the breeding season as they attempted to impress the more-muted females. One of the males was absorbed in a lengthy display, but despite some impressive dancing and shaking the receiving female picked up her pace to a trot and moved on.

Following lunch with views over sand dunes out to the Atlantic and accompanied by the song of Thekla's Lark, it was time to leave the National Park. The roadside fields were flushed lilac with *Matthiola parviflora* and an opportunistic Cattle Egret was spotted riding a sheep in one of the passing herds, before we stopped for the serious business of pottery buying.

Tearing ourselves away with a fine selection of lamps, bowls, tagines and more, we skirted the edge of Agadir, White Storks wheeling overhead, as we made our way down to the Souss Estuary. High tide had sent many birds on their way, but a lone Flamingo stood in the channel, with a group of Avocets thigh-deep in water, whilst noisy Oystercatchers and a handful of snoozing Bar-tailed Godwits claimed the opposite bank. Black-headed Gulls and Sandwich Terns joined the now-familiar Yellow-legged Gulls, with most taking the opportunity for some downtime. The coastal scrub was fairly quiet although our attempts to watch a Zitting Cisticola gave a moment of excitement as we caught the attention of the guards of the nearby palace. It was then time to return to the hotel and a hearty meal of chicken or vegetable pastille.





Top to bottom: Addax; Red-necked Ostrich; *Ismelia carinata*; Scimitar-horned Oryx; Dorcas Gazelle.

Day Six: 9th March. Imi Mquorn, Ait Baha and Laatik.

This morning's journey took us south-east towards Ait Baha, one of the larger towns in the western Anti-Atlas, as we set out to explore a little of Morocco's most southerly mountains. Driving again through productive agricultural areas with Cattle Egrets keeping watch over the rubbish dump, we crossed the valley of the Souss River.

Our first stop was an unassuming field near the town of Imi Mquorn filled with towering Apple of Sodom Milkweed plants. Filled with a poisonous sap, the plant was another of the motley crew of Apocynaceae (dogbane family) we'd already met several members of during the week. Sprawling over the ground were the ornate-looking leaves and small yellow flowers of Bitter Apple, along with several of its gone over 'mini-melon' fruit. A flowering Joint Pine scrambled through a neighbouring Argan and a Moussier's Redstart sang his squeaky song from a nearby Date Palm.

We soon reached Ait Baha with time for a coffee on the terrace and a visit to the town's cobblers before carrying on into the Anti-Atlas proper. The Anti-Atlas contain some of the oldest rocks in the world: an ancient mountain range that started to form 300 million years ago, and once rivalled the Himalayas in height. Today, they are much eroded, the highest peaks reaching between 2,500m and 2,700m. As we climbed we spotted Barbary Ground-squirrels and Bibron's Agamas lounging on roadside rocks, alongside the hillsides clad in Argan.

Reaching the tiny village of Laatik, we paid a visit to its ancient *agadir*, a fortified grain store dating from the time when local Berber tribes still fought one another (this particular *agadir* is some 770 years old). These buildings are typical of the Anti-Atlas and others could be spotted during the day, in various states of repair, perched on high ground. We were shown around by the local trusted custodian to see the structure of the *agadir* with its small storage rooms accessed by stepping stones, a well with fresh water and water storage tanks for seeing out any siege. The *agadir* came complete with its own 'jail', with some doors protected by more than one lock (security against less-trustworthy relatives), whilst others bore the black cross to fend off the advances of the beautiful but dangerous *Aisha Kandicha* of Moroccan folklore. Several Spur-thighed Tortoises had free-range within the *agadir*, daubed with paint to increase their visibility: it is a belief here that tortoises will protect your homes from scorpions. As we explored, intrigued by the *agadir*, a growing crowd of children looked on, intrigued by us!

There was time to stop on one of the rocky hillsides where *Euphorbia officinarum* made another appearance, here in its beautifully tight-cushioned *echinarum* form (considered by some to be a distinct sub-species). The fine-leaved *Asphodelus fistulosus* and broader-leaved *Asphodelus ramosus* were just beginning to break into flower, alongside Barbary Nut and Friar's-cowl. Yellow *Buthus* scorpions were uncovered sheltering under several rocks, with one accompanied by its freshly-shed skin, and a bright orange 'toad' grasshopper ambled among the rocks.

Our return journey took us via the terrace in Ait Baha with a trio of distant Ravens, before another round of shopping, this time to add Moroccan teapots to the list. Back at the Atlas Kasbah Helene and Hassan told us about how they had turned it from a vision into reality with the help of a lot of people along the way, before a dinner of conger eel tagine.





Top to bottom: *Calotropis procera*; *Laatik agadir*; Moorish Gecko; *Buthus scorpion*; cushions of *Euphorbia officinarum*.

Day Seven: 10th March. Paradise Valley and the Cascades du Immouzer.

We set off north today, initially driving along the coast road before cutting inland to explore the Western High Atlas. Our first stop took in a dry river gorge at around 200m. The Argan here was joined by Carob, along with Mastic Tree whose red fruits were just beginning to form. Alongside the path we found a selection of interesting plants including the small milkwort *Polygala rupestris*, the 'shaving-brush' flower of *Phagnalon saxatile*, the delicate sage *Salvia aegyptiaca* and the Moroccan endemic mignonette *Reseda diffusa*, with its spiky seed pods. A Striped Hawkmoth was nectaring on lavender whilst the small yellow-flowered fluellen *Nanorrhinum heterophyllum* provided an irresistible draw to a Cleopatra butterfly.

Returning to the bus the fluting song of Black-crowned Tchagra drifted up from below us but try as we might we couldn't locate the songster, making do instead with Subalpine Warbler, African Chaffinch and Sardinian Warbler.

Our next stop was at about 500m to explore an area dominated by *Tetraclinis articulata* the 'Thuja of the Berbers'. This conifer is primarily found in Morocco and Algeria, with additional small relict populations in Andalucia and Malta. Morocco holds 600,000ha of the 1Mha world population of the tree, which is known for its unusual grain and rich colour. Thuja is handcrafted to produce ornaments and utensils, with its large burrs resulting from 'self-coppicing' (a way of managing over-grazing and wildfires) prized by wood-carvers.

Among the Thuja we found more *Colchicum gramineum* along with a large patch of Brown Bluebell, but our attention was soon captured by a micro-drama down in the undergrowth as we found a team of ants transporting seed from *Launea* bushes to their nest, the resulting midden of cast-off pappi (the feathery umbrellas used for wind dispersal) nearby, a testament to their industriousness.

With the temperature continuing to climb, we reached the start of Paradise Valley and a welcome breeze. Along the water's edge Moorish Terrapins were basking, with Grey Wagtails busying themselves along the stream, and clumps of Castor Oil Plant and Chaste Bush growing alongside the road.

Legs stretched, we continued on our way, taking in some superb geological scenery as we made our way up and down again towards Immouzer for our lunch stop, former home to cascades, which had been dry in recent years as a result of increasing pressure on the region's water supply.

Pressing on and a stop among the flowering Almond trees gave us the opportunity to appreciate one of the stars of the High Atlas, the prickly, glaucous shrubby milkwort *Polygala balansae* with its violet and yellow flowers. Until recently this was thought to be endemic to Morocco, but a small population has now been found in southern Spain, close to Granada.

We had another short stop in a valley at around 1,300m with impressive stands of Dwarf Fan Palm, before carrying on to our final stop at 1,550m where we found a steppe-like dwarf shrub vegetation on what was almost limestone pavement, and a breathtaking view over the Western High Atlas. Bushes of *Cistus creticus* held the occasional flower with the deep pink flowers of *Ajuga iva* tucked into several rock crevices. A Moroccan Day Gecko peered coyly over a rock at us, before a Southern

Scarce Swallowtail appeared, to take the limelight in an extended photoshoot. There was time to soak in the views before setting off on our way back down to the Atlas Kasbah and the couscous waiting for us (it was Friday after all).

Day Eight: 11th March. Atlas Kasbah, evening flight back to UK.

Our final morning took some of us back down the goat track, where a pair of Woodchat Shrike had appeared since our last visit, whilst others enjoyed the pool and sun loungers at the hotel. One final lunch and one last mint tea in the courtyard, with the opportunity to thank Helene, Hassan and their team for their hospitality, and we were on our way back to the UK.

Thank you to all the travellers for joining us for a very enjoyable holiday in Morocco.

Laurie Jackson and Dom Price, Wildlife Travel. March 2023.



Above: road sign in the Western High Atlas.

MOROCCO 2023: some highlights

Selected Plant Species

Some plant species do not have English names and English names vary according to author. A common name is given as a guide to help those who are not familiar with the scientific name. The **Scientific name** consists of the **Genus** (the first name starting with a capital) and the **species** (the second name, without a capital). Families are in alphabetical order (not in the order found in many plant books - which now changes frequently as the systematic order of families is changing rapidly due to clarification by genetic research). The English name of a family member is also given so you can relate the family to plants you may know. Some species have recently been transferred to different families and the names of species also change occasionally. Orchid names are always problematic as many people split them into a number of species. For families and species, the list follows the (up to date as much as possible) Plant List (Kew) and INPI classification (although for orchids, popular names are sometimes also given).

D: dead, E: endemic, H: heard only, I: introduced, P: planted

	SCIENTIFIC NAME	NOTES	FIRST SEEN
PTERIDOPHYTES			
Aspleniaceae (spleenwort family)			
	<i>Asplenium ceterach</i>	Rustyback Fern in the Anti-Atlas growing in shaded cracks among the boulders	9 th
Pteridaceae (maidenhair fern family)			
	<i>Adiantum capillus-veneris</i>	Maidenhair Fern along the water channels in Tiout palmery	7 th
CONIFERS			
Cupressaceae (cypress family)			
P	<i>Cupressus sempervirens</i>	Mediterranean Cypress in the Atlas Kasbah garden	5 th
	<i>Juniperus oxycedrus</i>	Prickly Juniper with the variegated leaves at the final viewpoint in the High Atlas	10 th
	<i>Tetraclinis articulata</i>	Thuja of the Berbers the conifer growing in the High Atlas	10 th
Ephedraceae (joint pine family)			
	<i>Ephedra fragilis</i>	Joint Pine slender, scrambling shrub seen in several places including near the hotel and in the Anti-Atlas	5 th
DICOTYLEDONS			
Aizoaceae (fig marigold family)			
I	<i>Carpobrotus acinaciformis</i>	The pink flowered succulent in the garden of Atlas Kasbah, from South Africa	5 th
	<i>Mesembryanthemum crystallinum</i>	Common Ice Plant with broad, red leaves and white petalled flowers, covered with glistening bladder cells	5 th
Amaranthaceae (amaranth family)			
	<i>Chenopodium murale</i>	Nettle-leaved Goosefoot in the old agadir at Laatik	9 th

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	SCIENTIFIC NAME	NOTES	FIRST SEEN
	<i>Soda</i> (= <i>Salsola</i>) <i>oppositifolia</i>	Pink Saltbush succulent thorny shrub with hook-tipped leaves at Cap Rhir	6 th
	<i>Suaeda vera</i>	Shrubby Sea-blite fleshy shrub at Oued Tamri and Oued Souss	6 th
Anacardiaceae (sumac family)			
	<i>Pistacia lentiscus</i>	Mastic evergreen shrub in the High Atlas (cultivated in some areas for its aromatic resin)	10 th
Apiaceae (carrot family)			
	<i>Ferula communis</i>	Giant Fennel in the Arrouais enclosure at Souss-Massa National Park	8 th
	<i>Sclerosciadium nodiflorum</i>	The small umbellifer growing in sandy soils	8 th
Apocyanaceae (dogbane family)			
	<i>Apteranthes europaea</i>	Fleshy succulent with maroon and cream flowers and long seed pods growing in semi-shade under shrubs	5 th
	<i>Calotropis procera</i>	Apple of Sodom Milkweed the large, Saharan shrub, food plant of the Plain Tiger	9 th
	<i>Nerium oleander</i>	Oleander widespread often in dry river beds	5 th
	<i>Periploca angustifolia</i>	African Wolfbane thorny shrub just beginning to flower (the 'octopus flowers')	5 th
Araceae (arum family)			
	<i>Arisarum vulgare</i>	Friar's Cowl leaves seen widely	5 th
Aristolochiaceae (birthwort family)			
	<i>Aristolochia baetica</i>	The vine with the 'dutchman's pipe' flowers in Tiout palmery: foodplant of Spanish Festoon	7 th
Asteraceae (daisy family)			
	<i>Anvillea garcinii</i>	Yellow daisy with minty-lemon scented leaves	5 th
	<i>Asteriscus aquaticus</i>	Yellow daisy in the High Atlas	10 th
E	<i>Asteriscus</i> (= <i>Nauplius</i>) <i>imbricatus</i>	Bushy yellow daisy with fragrant leaves around Cap Rhir	6 th
	<i>Calendula arvensis</i>	Field Marigold one of the common 'yellow asters'	5 th
	<i>Catananche arenaria</i>	Cream daisy with a maroon centre, first seen on the goat track	5 th
	<i>Cladanthus arabicus</i>	Large yellow daisy with aromatic feathery leaves	5 th
E	<i>Ismelia carinata</i>	The white daisy with yellow and maroon centre seen at Souss-Massa	8 th
E	<i>Kleinia anteuphorbium</i>	Succulent shrubby 'groundsel' around Cap Rhir, also seen in the High Atlas	6 th
	<i>Launaea arborescens</i>	Chicken wire bush	5 th
E	<i>Onopordum dyris</i>	The cotton-thistle growing in the village	5 th
	<i>Pallenis spinosa</i>	Spiny Golden Star along the goat track with spiny bracts	5 th
	<i>Phagnalon saxatile</i>	The 'shaving brush' flower in the High Atlas	10 th

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	SCIENTIFIC NAME	NOTES	FIRST SEEN
	<i>Reichardia tingitana</i>	False Sowthistle Souss-Massa National Park	8 th
	<i>Senecio glaucus</i> ssp. <i>coronopifolius</i>	The fleshy-looking ragwort in the Anti-Atlas	9 th
	<i>Volutaria lippii</i>	The common blue 'knapweed' first seen on the goat track	5 th
Boraginaceae (borage family)			
	<i>Echium horridum</i>	The red 'bugloss' with long bristles	5 th
	<i>Heliotropium crispum</i>	The white heliotrope first seen on the goat track	5 th
	<i>Mairetis microsperma</i>	The small borage with pale blue flowers first seen at Cap Rhir	6 th
Brassicaceae (cabbage family)			
	<i>Cakile maritima</i>	Sea Rocket the white flowered brassica at Cap Rhir	6 th
	<i>Marcus-kochia</i> (= <i>Malcolmia</i>) <i>littorea</i>	The large purple stock at Cap Rhir	6 th
	<i>Marcus-kochia</i> (= <i>Malcolmia</i>) <i>triloba</i>	The purple stock in the Anti-Atlas	9 th
	<i>Matthiola parviflora</i>	The small lilac stock first seen on the goat track	5 th
Cactaceae (cactus family)			
I	<i>Austrocylindropuntia subulata</i> (= <i>Opuntia cylindrica</i>)	Cactus (native to Colombia and Peru)	9 th
I	<i>Opuntia maxima</i> (= <i>O ficus-barbarica</i>)	Fig of the Berbers (native to Mexico) around the village and in Tiout Palmery, mostly dead	5 th
Capparaceae (caper family)			
	<i>Capparis spinosa</i>	Caper spiny shrub growing from rocks in the High Atlas	10 th
Caryophyllaceae (pink family)			
	<i>Paronychia argentea</i>	Algerian Tea with papery white bracts	5 th
	<i>Polycarpaea nivea</i>	Grey-green shrub at Cap Rhir and Oued Tamri	6 th
	<i>Silene gracilis</i>	The campion with the striped calyx	7 th
	<i>Spergularia fimbriata</i>	The purple-flowered spurrey first seen on the goat track	5 th
	<i>Spergularia flaccida</i>	The white-flowered spurrey in Tiout	7 th
Cistaceae (rock-rose family)			
	<i>Cistus creticus</i>	At the High Atlas view point	10 th
	<i>Helianthemum confertum</i>	Souss Massa National Park in the first animal enclosure	8 th
	<i>Helianthemum lippii</i>	Cap Rhir	5 th
Convolvulaceae (bindweed family)			
	<i>Convolvulus althaeoides</i>	Along the goat track (not flowering)	5 th
	<i>Convolvulus siculus</i> subsp. <i>elongatus</i>	The pale pink bindweed on the goat track	5 th

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	SCIENTIFIC NAME	NOTES	FIRST SEEN
	<i>Cuscuta</i> sp.	Dodder the white-flowered parasitic plant sprawling over other plants, first seen near the hotel	5 th
P	<i>Ipomoea batatas</i>	Sweet Potato pink flowered climber in the garden	5 th
Crassulaceae (stonecrop family)			
	<i>Crassula</i> sp.	Along the goat track (not flowering)	5 th
	<i>Sedum</i> sp.	Along the goat track (not flowering)	5 th
	<i>Umbilicus rupestris</i>	Navelwort on a shaded bank in the High Atlas	10 th
Cucurbitaceae (gourd family)			
	<i>Bryonia dioica</i>	White Bryony climber in Tiout	7 th
	<i>Citrullus colocynthis</i>	Bitter Apple the scrambling plant with the round fruits in the Anti-Atlas	9 th
Cynomoriaceae (desert thumb family)			
	<i>Cynomorium coccineum</i>	Desert Thumb the parasitic plant emerging from the sand at Cap Rhir	6 th
Euphorbiaceae (spurge family)			
	<i>Euphorbia officinarum</i>	Succulent with the cactus-like growth form, in Cap Rhir appearing as tall, columns	6 th
	<i>Euphorbia paralias</i>	Sea Spurge on the beach at Oued Tamri	6 th
	<i>Euphorbia regis-jubae</i>	The succulent spurge with the lime-green tree-like growth form	6 th
	<i>Mercurialis annua</i>	Annual Mercury along the goat track	5 th
I	<i>Ricinus communis</i>	Castor Oil Plant along roadsides and in Tiout palmery	6 th
Fabaceae (pea family)			
I	<i>Acacia saligna</i>	Golden Wattle Australian species planted at Souss-Massa National Park and tucked under rocks at the High Atlas view point	8 th
	<i>Ceratonia siliqua</i>	Carob garden, Tiout palmery and High Atlas	5 th
E	<i>Chamaecytisus mollis</i>	White-flowered broom on the goat track	5 th
	<i>Genista tricuspidata</i>	The yellow 'gorse'	5 th
E	<i>Hesperolaburnum platycarpum</i>	The yellow-flowered broom in the Anti-Atlas	9 th
E	<i>Lotus assakensis</i>	The bird's-foot trefoil growing on the roadside at Cap Rhir	6 th
	<i>Lotus creticus</i>	Southern Bird's-foot Trefoil with glaucous leaves at Cap Rhir	6 th
	<i>Medicago laciniata</i>	Cut-leaved Medick the small yellow medick in the Anti-Atlas	9 th
	<i>Medicago sativa</i>	Alfalfa in the fields at Tiout palmery	7 th
	<i>Ononis natrix</i>	The bushy restharrow with smelly, sticky leaves and yellow flowers	5 th
	<i>Retama monosperma</i>	White Broom Souss-Massa National Park	8 th
E	<i>Vachellia gummifera</i>	The fine-leaved acacia	5 th

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	SCIENTIFIC NAME	NOTES	FIRST SEEN
	<i>Vicia benghalensis</i>	In the fields at Tiout palmery	7 th
Frankeniaceae (sea heath family)			
E	<i>Frankenia laevis</i> ssp. <i>velutina</i> (=Frankenia <i>corymbosa</i>)	Sea Heath pink flowers at Cap Rhir	6 th
Geraniaceae (geranium family)			
	<i>Erodium cicutarium</i>	Small flowered stork's-bill on the goat track	5 th
	<i>Erodium hesperium</i>	The stork's-bill at Souss-Massa	8 th
Lamiaceae (mint family)			
	<i>Ajuga chamaepitys</i>	Yellow Bugle first seen on the goat track with more at Cap Rhir	5 th
	<i>Ajuga iva</i>	Southern Bugle the pink-flowered form seen at the High Atlas viewpoint	10 th
	<i>Lavandula dentata</i>	Velvety grey leaves with toothed edges	5 th
	<i>Lavandula multifida</i>	Pinnate leaves, medium-large flowers first seen along the goat track	5 th
	<i>Marrubium vulgare</i>	White Horehound at the old agadir in Laatik	9 th
	<i>Salvia aegyptiaca</i>	The small sage in the High Atlas	10 th
	<i>Vitex agnus-castus</i>	Chaste Tree the purple-flowered shrub in the High Atlas	10 th
Lythraceae (loosestrife family)			
P	<i>Punica granatum</i>	Pomegranate Atlas Kasbah garden	5 th
Malvaceae (mallow family)			
	<i>Malva parviflora</i>	Widespread	5 th
Moraceae (mulberry family)			
P	<i>Ficus carica</i>	Common Fig in Tiout palmery	7 th
Moringaceae (horseradish tree family)			
P	<i>Moringa oleifera</i>	Horseradish Tree on the terrace at Atlas Kasbah	5 th
Myrtaceae (myrtle family)			
P	<i>Eucalyptus</i> cf. <i>globulus</i>	Planted in Souss-Massa National Park	8 th
Nyctaginaceae (four o'clock family)			
P	<i>Bougainvillea</i> sp.	Atlas Kasbah garden	5 th
Oleaceae (olive family)			
	<i>Olea europaea</i>	Olive	5 th
Orobanchaceae (broomrape family)			
	<i>Cistanche phelypaea</i>	Desert Hyacinth the large yellow-flowered stems emerging from the sand at Cap Rhir	6 th
Papaveraceae (poppy family)			
	<i>Papaver rhoeas</i>	Corn Poppy	7 th
Plantaginaceae (plantain family)			
E	<i>Linaria bipartita</i>	The purple toadflax first seen on the goat track	5 th

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	SCIENTIFIC NAME	NOTES	FIRST SEEN
	<i>Nanorrhinum heterophyllum</i> (=Kickxia heterophylla)	First stop at High Atlas the creeping fluellen with yellow flowers	10 th
	<i>Plantago afra</i>	Glandular Plantain seen widely	5 th
	<i>Plantago ovata</i>	Laatik the small plantain at the old agadir	9 th
Plumbaginaceae (leadwort family)			
E	<i>Limonium mucronatum</i>	The sea lavender at Cap Rhir	6 th
Polygalaceae (milkwort family)			
	<i>Polygala balansae</i>	The purple shrubby milkwort in the High Atlas	10 th
	<i>Polygala rupestris</i>	The small milkwort growing on rocks at the first stop in the High Atlas	10 th
Polygonaceae (knotweed family)			
	<i>Rumex spinosus</i> (=Emex spinosa)	Spiny Dock growing near the hotel	5 th
	<i>Rumex vesicarius</i>	Bladder Dock the dock with inflated pink calyx at Cap Rhir	6 th
Primulaceae (primrose family)			
	<i>Anagallis monelli</i> ssp. <i>monelli</i>	Blue Pimpernel first seen in the village	5 th
Resedaceae (mignonette family)			
	<i>Reseda alba</i>	White Mignonette first seen near the hotel	5 th
E	<i>Reseda diffusa</i>	The mignonette in seed at the first stop in the High Atlas	10 th
	<i>Reseda lutea</i>	Wild Mignonette seen widely along roadsides	6 th
Rhamnaceae (buckthorn family)			
	<i>Ziziphus lotus</i>	Jujube very spiny hedge bush	5 th
Rosaceae (rose family)			
	<i>Prunus amygdalus</i> (=dulcis)	Almond flowering in the High Atlas	10 th
Sapotaceae (sapota family)			
	<i>Sideroxylon</i> (=Argania) <i>spinosa</i>	Argan	5 th
Scrophulariaceae (figwort family)			
	<i>Scrophularia arguta</i>	In the village	5 th
P	<i>Myoporum laetum</i>	Hedge around the Atlas Kasbah garden	5 th
E	<i>Verbascum faurei</i> ssp. <i>acanthifolium</i>	In the old agadir at Laatik	9 th
	<i>Verbascum sinuatum</i>	At the first stop in the High Atlas	10 th
Solanaceae (nightshade family)			
	<i>Lycium intricatum</i>	Small, purple tubular flowers at Cap Rhir	6 th
I	<i>Nicotiana glauca</i>	South American invasive with yellow flowers	6 th
	<i>Withania frutescens</i>	Winter Cherry the shrub with yellow bell flowers	5 th

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	SCIENTIFIC NAME	NOTES	FIRST SEEN
	<i>Withania somnifera</i>	Ashwagandha the shrub coming up in Tiout palmery	7 th
Tamaricaceae (tamarisk family)			
	<i>Tamarix gallica</i>	French Tamarisk first seen in the dunes at Oued Tamri	6 th
Urticaceae (nettle family)			
	<i>Urtica dioica</i>	Common Nettle	5 th
Verbenaceae (verbena family)			
	<i>Vitex agnus-castus</i>	Chaste Bush purple flowered shrub in the dry river bed	10 th
Zygophyllaceae (caltrop family)			
	<i>Zygophyllum creticum</i> (= <i>Fagonia cretica</i>)	Virgin's Mantle the creeping violet flower that closes in the sun, first seen along the goat track	5 th
MONOCOTYLEDONS			
Aracaceae (palm family)			
	<i>Chamaerops humilis</i>	Dwarf Fan Palm seen in the High Atlas	10 th
	<i>Phoenix dactylifera</i>	Date Palm a common roadside tree, some wonderful old trees in Tiout palmery	7 th
Asparagaceae (asparagus family)			
	<i>Asparagus acutifolius</i>	The scrambling wild asparagus	5 th
	<i>Asparagus albus</i>	Shrubby asparagus with pale stems in Tiout palmery	9 th
	<i>Asparagus horridus</i>	Spiny asparagus at Imi Mqourn	9 th
	<i>Dipcadi serotinum</i>	Brown Bluebell seen along the goat track and later in flower in the High Atlas	5 th
	<i>Drimia maritima</i>	Sea Squill (not flowering)	5 th
	<i>Muscari comosum</i> (= <i>Leopoldia comosa</i>)	Tassel Hyacinth growing on the bank in the village	5 th
Asphodelaceae (asphodel family)			
	<i>Asphodelus fistulosus</i>	Hollow-stemmed Asphodel the fine-leaved asphodel, first seen near the hotel	5 th
	<i>Asphodelus ramosus</i>	Branched Asphodel the broad-leaved asphodel	9 th
Colchicaceae (colchicum family)			
	<i>Colchicum</i> (= <i>Androcymbium</i>) <i>gramineum</i>	The low-growing white bulb in the village and the High Atlas	5 th
Cyperaceae (sedge family)			
	<i>Cyperus capitatus</i>	The large sedge at Souss-Massa National Park	8 th
Iridaceae (iris family)			
	<i>Moraea sisyrinchium</i>	Barbary Nut in the village	5 th
Poaceae (grass family)			
	<i>Arundo donax</i>	Giant Reed first seen in the village	5 th
	<i>Cenchrus ciliaris</i>	African Foxtail large fluffy flower-heads	5 th
	<i>Cynodon dactylon</i>	Bermuda Grass first seen at the hotel	5 th
	<i>Polypogon monspeliensis</i>	Annual Beard Grass the grass with the fluffy flower-head at Cap Rhir	6 th

BIRDS

This checklist follows the taxonomy published in the **HBW and BirdLife International Illustrated Checklist of the Birds of the World**, as updated by www.birdsoftheworld.org

English names follow those used in the **Collins Bird Guide** (3rd edition).

	ENGLISH NAME	SCIENTIFIC NAME	NOTES	1	2	3	4	5	6	7	8
Family Struthionidae (Ostriches)											
	Red-necked Ostrich	<i>Struthio camelus camelus</i>						◆			
Family Anatidae (Ducks, Geese & Waterfowl)											
	Ruddy Shelduck	<i>Tadorna ferruginea</i>				◆					
	Mallard	<i>Anas platyrhynchos</i>						◆			
Family Phasianidae (Pheasants, Grouse and allies)											
	Barbary Partridge	<i>Alectoris barbara</i>			H						
	Double-spurred Frankolin	<i>Pternistis bicalcaratus ayesha</i>						◆			
Family Phoenicopteridae (Flamingoes)											
	Greater Flamingo	<i>Phoenicopus roseus</i>						◆			
Family Columbidae (Pigeons and Doves)											
	Rock Dove	<i>Columba livia</i>		◆	◆	◆	◆	◆	◆		
	Woodpigeon	<i>Columba palumbus</i>						◆			
	Collared Dove	<i>Streptopelia decaocto</i>		◆	◆	◆	◆	◆	◆	◆	◆
	Laughing Dove	<i>Spilopelia senegalensis</i>			◆						◆
Family Caprimulgidae (Nightjars and allies)											
	Red-necked Nightjar	<i>Caprimulgus ruficollis</i>			H		H				
Family Apodidae (Swifts)											
	Pallid Swift	<i>Apus pallidus</i>				◆	◆	◆	◆	◆	◆
	Little Swift	<i>Apus affinis</i>					◆				
Family Burhinidae (Thick-knees)											
	Stone Curlew	<i>Burhinus oedicephalus</i>			H						
Family Recurvirostridae (Stilts and Avocets)											
	Avocet	<i>Recurvirostra avosetta</i>						◆			
Family Haematopidae (Oystercatchers)											
	Oystercatcher	<i>Haematopus ostralegus</i>						◆			
Family Scolopacidae (Sandpipers and allies)											
	Bar-tailed Godwit	<i>Limosa lapponica</i>						◆			
Family Laridae (Gulls, Terns and Skimmers)											
	Black-headed Gull	<i>Chroicocephalus ridibundus</i>						◆			
	Yellow-legged Gull	<i>Larus michahellis</i>				◆		◆	◆		
	Lesser Black-backed Gull	<i>Larus fuscus</i>				◆		◆			
	Common Tern	<i>Sterna hirundo</i>						◆			
	Sandwich Tern	<i>Thalasseus sandvicensis</i>						◆			

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	ENGLISH NAME	SCIENTIFIC NAME	NOTES	1	2	3	4	5	6	7	8
	Family Ciconiidae (Storks)										
	White Stork	<i>Ciconia ciconia</i>						◆			
	Family Sulidae (Boobies and Gannets)										
	Gannet	<i>Morus bassanus</i>				◆					
	Family Phalacrocoracidae (Cormorants and Shags)										
	Great Cormorant	<i>Phalacrocorax carbo</i>						◆			
	Family Ardeidae (Heron, Egrets and Bitterns)										
	Grey Heron	<i>Ardea cinerea</i>				◆					
	Little Egret	<i>Egretta garzetta</i>				◆					
	Cattle Egret	<i>Bubulcus ibis</i>						◆	◆		
	Family Threskiornithidae (Ibises and Spoonbills)										
	Northern Bald Ibis	<i>Geronticus eremita</i>				◆					
	Family Accipitridae (Hawks, Eagles and Kites)										
	Bonelli's Eagle	<i>Aquila fasciata</i>						◆			
	Family Strigidae (Owls)										
	Little Owl	<i>Athene noctua</i>						◆			
	Family Upupidae (Hoopoes)										
	Hoopoe	<i>Upupa epops</i>					◆	H	◆		
	Family Meropidae (Bee-eaters)										
	European Bee-eater	<i>Merops apiaster</i>									◆
	Family Falconidae (Falcons and Caracaras)										
	Kestrel	<i>Falco tinnunculus</i>			◆		◆	◆	◆		
	Family Malaconotidae (Bushshrikes and allies)										
	Black-crowned Tchagra	<i>Tchagra senegalus</i>								H	H
	Family Laniidae (Shrikes)										
	Southern Grey Shrike	<i>Lanius excubitor algeriensis</i>				◆		◆	◆		
	Woodchat Shrike	<i>Lanius senator</i>							◆		◆
	Family Corvidae (Crows, Jays and Magpies)										
	Maghreb Magpie	<i>Pica mauritanica</i>		◆	◆	◆	◆	◆	◆	◆	◆
	Raven	<i>Corvus corax</i>							◆		
	Family Paridae (Tits)										
	Great Tit	<i>Parus major</i>			◆		◆	◆	◆	◆	◆
	Family Alaudidae (Larks)										
	Short-toed Lark	<i>Calandrella brachydactyla</i>						◆			
	Thekla's Lark	<i>Galerida theklae ruficolor</i>			◆	◆	◆	◆	◆	◆	◆
	Family Cisticolidae (Cisticolas and allies)										
	Zitting Cisticola	<i>Cisticola juncidis</i>						◆			
	Family Hirundinidae (Swallows)										
	Swallow	<i>Hirundo rustica</i>			◆	◆	◆	◆	◆	◆	◆
	Red-rumped Swallow	<i>Cecropis daurica</i>					◆				◆
	House Martin	<i>Delichon urbica</i>			◆		◆				

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	ENGLISH NAME	SCIENTIFIC NAME	NOTES	1	2	3	4	5	6	7	8
	Family Pycnonotidae (Bulbuls)										
	Common Bulbul	<i>Pycnonotus barbatus</i>			◆	◆	◆	◆	◆	◆	◆
	Family Phylloscopidae (Leaf Warblers)										
	Common Chiffchaff	<i>Phylloscopus collybita</i>					◆				
	Family Sylviidae (Sylviid Warblers and allies)										
	Blackcap	<i>Sylvia atricapilla</i>					◆	◆		◆	◆
	Western Orphean Warbler	<i>Curruca hortensis</i>			◆	◆					
	Sardinian Warbler	<i>Curruca melanocephala</i>			◆	◆	◆	◆		◆	◆
	Western Subalpine Warbler	<i>Curruca iberiae</i>							◆	◆	◆
	Family Sturnidae (Starlings)										
	Spotless Starling	<i>Sturnus unicolor</i>		◆			◆		◆		
	Family Turdidae (Thrushes and allies)										
	Blackbird	<i>Turdus merula mauritanicus</i>			◆	◆	◆	◆	◆	◆	◆
	Family Muscicapidae (Old World Flycatchers)										
	Moussier's Redstart	<i>Phoenicurus moussieri</i>			◆	◆		◆	◆	◆	
	Stonechat	<i>Saxicola torquata</i>				◆					◆
	Black Wheatear	<i>Oenanthe leucura</i>			◆	◆	◆	◆	◆	◆	◆
	Family Passeridae (Old World Sparrows)										
	House Sparrow	<i>Passer domesticus</i>		◆	◆	◆	◆	◆	◆	◆	◆
	Family Motacillidae (Wagtails and Pipits)										
	Grey Wagtail	<i>Motacilla cinerea</i>					◆			◆	
	White Wagtail	<i>Motacilla alba alba</i>			◆						
	Moroccan Wagtail	<i>Motacilla (alba) subpersonata</i>				◆					
	Family Fringillidae (Finches and allies)										
	African Chaffinch	<i>Fringilla africana</i>			◆	◆	◆	◆		◆	◆
	Greenfinch	<i>Chloris chloris</i>			◆	◆	◆	◆	◆		◆
	Linnet	<i>Linaria cannabina</i>				◆		◆			
	Serin	<i>Serinus serinus</i>					◆	◆	◆	◆	
	Family Emberizidae (Buntings)										
	Cirl Bunting	<i>Emberiza cirlus</i>			◆		◆				
	House Bunting	<i>Emberiza sahari</i>			◆	◆	◆	◆	◆	◆	◆

	ENGLISH NAME	SCIENTIFIC NAME	NOTES	1	2	3	4	5	6	7	8
	MAMMALS										
	Dorcas Gazelle	<i>Gazella dorcas</i>						◆			
	Addax	<i>Addax nasomaculatus</i>						◆			
	Scimitar-horned Oryx	<i>Oryx dammah</i>						◆			
	Barbary Ground Squirrel	<i>Atalantoxerus getulus</i>			◆	◆	◆		◆	◆	◆
	Dromedary	<i>Camelus dromedarius</i>			◆	◆		◆	◆		

AMPHIBIANS AND REPTILES											
	This checklist follows the taxonomy published in Amphibians and Reptile of Morocco , as updated at <i>www.moroccoherps.com</i>										
	ENGLISH NAME	SCIENTIFIC NAME	NOTES	1	2	3	4	5	6	7	8
AMPHIBIANS											
	Berber Toad	<i>Sclerophrys mauretunica</i>			◆						
	North African Water Frog	<i>Pelophylax saharica</i>			◆		◆	◆		◆	◆
REPTILES											
	Spur-thighed Tortoise	<i>Testudo graeca</i>			◆			◆	◆		
	Moorish Terrapin	<i>Mauremys leprosa</i>						◆		◆	
	Moroccan Day Gecko	<i>Quedenfeldtia moerens</i>								◆	
	Moorish Gecko	<i>Tarentola mauritanica</i>			◆				◆		
	Margarita’s Fringe-toed Lizard	<i>Acanthodactylus margaritae</i>				◆		◆			
	Golden Fringe-toed Lizard	<i>Acanthodactylus aureus</i>						◆			
	Bibron’s Agama	<i>Agama bibronii</i>							◆		

	ENGLISH NAME	SCIENTIFIC NAME	NOTES	1	2	3	4	5	6	7	8
BUTTERFLIES											
Family Hesperiidae (Skippers)											
	False Mallow Skipper	<i>Carcharodus tripolinus</i>			◆						
Family Papilionidae (Swallowtails)											
	Southern Scarce Swallowtail	<i>Iphiclides feisthamelii</i>								◆	
	Spanish Festoon	<i>Zerynthia rumina africana</i>					◆				
	Spanish Festoon	<i>Zerynthia rumina tarrieri</i>								◆	
Family Pieridae (Whites)											
	Moroccan Orange Tip	<i>Anthocharis belia</i>			◆		◆		◆	◆	◆
	Greenish Black-tip	<i>Euchloe charlonia</i>			◆	◆		◆		◆	◆
	Bath White	<i>Pontia daplidice</i>			◆			◆			◆
	Large White	<i>Pieris brassicae</i>			◆					◆	◆
	Small White	<i>Pieris rapae mauretunica</i>			◆						◆
	Clouded Yellow	<i>Colias croceus</i>					◆	◆			
	Cleopatra	<i>Gonopteryx cleopatra</i>			◆	◆				◆	
Family Lycaenidae (Blues, Coppers and Hairstreaks)											
	Moroccan Hairstreak	<i>Tomares mauretanicus</i>			◆	◆					
	Small Copper	<i>Lycaena phlaeas</i>				◆		◆	◆		◆
	Long-tailed Blue	<i>Lampides boeticus</i>									◆
	Lang’s Short-tailed Blue	<i>Leptotes pirithous</i>				◆	◆			◆	
	False Baton Blue	<i>Pseudophilotes abencerragus</i>						◆			
	Common Tiger Blue	<i>Tarucus theophrastus</i>			◆						

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	ENGLISH NAME	SCIENTIFIC NAME	NOTES	1	2	3	4	5	6	7	8
Family Nymphalidae (Admirals and Fritillaries)											
	Painted Lady	<i>Vanessa cardui</i>			◆	◆	◆	◆	◆	◆	◆
	Red Admiral	<i>Vanessa atalanta</i>							◆		
	African Knapweed Fritillary	<i>Melitaea punica</i>					◆				

	ENGLISH NAME	SCIENTIFIC NAME	notes	1	2	3	4	5	6	7	8
OTHER INVERTEBRATES											
BEES											
	Violet Carpenter Bee	<i>Xylocopa violacea</i>								◆	
BEETLES											
	a flower chafer	<i>Oxythyrea cf funesta</i>					◆				
BUGS											
	Oleander Seed Bug	<i>Caenocoris nerii</i>			◆					◆	
DRAGONFLIES											
	Vagrant Emperor	<i>Hemianax ephippiger</i>			◆	◆			◆		
GRASSHOPPERS											
	Cone-headed Grasshopper	<i>Acrida ungarica</i>						◆			
MOTHS											
	Pale Shoulder	<i>Acontia lucida</i>			◆						
	Striped Hawk-moth	<i>Hyles livornica</i>			◆					◆	
SCORPIONS											
	Yellow Scorpion	<i>Buthus sp.</i>				◆					